Reviewer’s report

Title: Effect of metallo-beta-lactamase production and multidrug-resistance on clinical outcomes in patients with Pseudomonas aeruginosa bloodstream infection: a retrospective cohort study

Version: 2 Date: 29 September 2013

Reviewer: Gavin Barlow

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Major compulsory revisions

1. For the non-expert reader, it would be useful to define MRGN and the relevance of this and also what the difference is between 34MRGN and 4MRGN and why this is important.

2. Only 34 isolates were tested for MBL - why - is this due to the retrospective nature of the study? How can we be sure the isolates not tested were not MBL - this is clearly a potential weakness of the study - I may be missing something (being stupid!), but I think, particularly for the non-expert reader, this needs to be explained more clearly/openly in the discussion.

3. In the tables please round percentages up/down to the nearest whole number (e.g. 47.79% becomes 48%). Likewise, HR do not need to be presented to 4 decimal points (e.g. 0.5469 becomes 0.54).

4. Table 5 is quite confusing. It presents multiple multivariate analyses focusing on 7 resistance phenotypes with the other significant predictor variables in each model presented under the table, which is tricky to read. I would redraw this table focusing on 2 or 3 key resistance phenotypes and presenting all the significant predictor variables in each of those models and the corresponding statistics - any other relevant findings from additional models can be commented on in the results text.

5. I’m not sure table 6 adds much for most readers - I would take out.

6. The English is quite good, but the manuscript would benefit from being edited again by someone with English as their first language or who is highly fluent.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a
statistician.